EX PARTE OR LATE FILED


September 2, 1997

***By Hand Delivery***



Mr. William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, DC 20554

Re: Notice of *Ex Parte* Communication in Local Competition Provisions in the Telecommunications Act of 1996, CC Docket 96-98 and RM 9101

Dear Mr. Caton:

On Friday, August 29, 1997 on behalf of the Local Competition Users Group ("LCUG"), Douglas W. Kinkoph and Jane Kunka, LCI International Telecom Corp. ("LCI"); Richard Fruchterman, WorldCom; Bob Welborn and Richard Juhnke, Sprint; Al Lewis, AT&T; Terry Monroe, Competitive Telecommunications Association ("CompTel"); and John Ruja, Tom O'Donoghue and Amy Zirkle, MCI met at CompTel with staff members of the Federal Communications Commission's ("FCC") Common Carrier Bureau. Other LCUG member company representatives participated in the meeting via conference call. Representing LCUG on the conference call were Chuck King, Michael Pfau, and Bob Young of AT&T. The FCC's Common Carrier Bureau staff members in attendance at this meeting were Jake Jennings, Wendy Lader, Rhadika Karmarkar, David Kirschner, and Brent Olson.

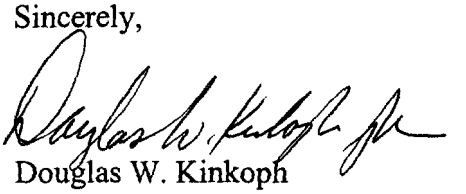
In our discussions, LCUG's representatives discussed the LCI/CompTel Joint Petition for Expedited Rulemaking, filed with the FCC on May 30, 1997, the FCC's subsequent Public Notice, public comments submitted in response of the Public Notice, and LCUG's Service Quality Measurements (SQM's) and Performance Standards recommendations (Version 5 of the document is attached).

In the discussions today and LCUG explained, in detail, each SQM measurement goal and criteria, which will ensure adequate access by CLECs to incumbent ILECs OSS functionalities. LCUG explained that the need for such a rulemaking is critical for business and consumers alike, given the difficulties that CLECs have encountered with

OSS access, unreasonable and discriminatory situations, and the ILECs failure to comply with the FCCs First Report and Order for establishing performance standards. In response to questions from the FCC staff, areas addressed were the specific distinctions between performance standards versus reporting requirements, comparable functions from a customer's perspective, parity, verification process timeliness, data base accuracy, default measurements and performance definitions.

Please place a copy of this letter in the public record of the above-referenced docket. Thank you for your assistance.

Sincerely,



Douglas W. Kinkoph
Director, Regulatory/Legislative Affairs

cc Jake Jennings
Radhika Karmarkar
David Kirschner
Wendy Lader
Brent Olson

# *LOCAL COMPETITION USERS GROUP*
# (LCUG)

## *SERVICE QUALITY MEASUREMENTS (SQM)*

**Version 5**

*Membership: AT&T, Sprint, MCI, LCI, WorldCom*

# *LOCAL COMPETITION USERS GROUP*
# (LCUG)

## *SERVICE QUALITY MEASUREMENTS (SQM)*

June 9, 1997

*Membership: AT&T, Sprint, MCI, LCI, WorldCom*

# LCUG Service Quality Measurements (SQMs)

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# LCUG Service Quality Measurements (SQMs)

## *Introduction*

### Background:

On August 8, 1996, the Commission released its First Report and Order (the Order) in CC Docket No. 96-98 (Implementation of the Local Competition Provisions of the Telecommunications Act of 1996). The Order established regulations to implement the requirements of the Telecommunications Act of 1996. Those regulations are intended to enable potential competitive local exchange carriers (CLECs) to enter and compete in local telecommunications markets. The Commission found that nondiscriminatory access to operations support systems ("OSS") of incumbent local exchange carriers ("ILECs") was essential to successful market entry by CLECs. ILECs were to provide access to their operational support systems by January 1, 1997. However, long-term solutions for application-to-application, real time system interfaces have proven evasive because of the complexity, the diversity of commitment schedules to implement them and the lack of industry guidelines. Meanwhile, many variations of interim OSS graphic userinterfaces ("GUIs") and electronic gateways have been or are being installed by the ILECs. These interim systems do not provide the CLECs with the capabilities necessary to provide customer service at a parity level with what as the ILECs currently provide for their end useres. The timeliness and accuracy of information processed by the ILEC for pre-ordering, ordering and provisioning, maintenance and repair, and billing for wholesale services and unbundled elements have been less than the expected levels of service to satisfy this parity requirement..

On February 12, 1997, the Local Competition Users Group (LCUG) issued their "Foundation For Local Competition: Operations Support Systems Requirements For Network Platform and Total Services Resale." The core principles are: Service Parity, Performance Measurement, Electronic Interfaces, Systems Integrity Notification of Change, and Standards Adherence. Each of these are significant to enable CLEC customers to obtain levels of service equal to those of ILEC customers. LCUG firmly believes that a reporting plan must be developed to measure ILEC performance for all the essential OSS categories, e.g., pre-ordering, ordering and provisioning, maintenance, repair, and billing as well as, network performance, unbundled elements, operator services and directory assistance, system and, service center performance. To that end, an LCUG sub-committee was formed to identify a concise set of fundamental performance measurements. Furthermore, due to the fact that the ILECs have thus far withheld release of the relevant performance results for their own internal operations (against which parity must be judged), LCUG has also developed a set of proposed OSS performance benchmarks, which LCUG believes reasonably represents current ILECs performance. The following document is the result of that activity.

In preparing this document LCUG discussed each measurement and used present measurements criteria contained in regulatory requirements or good business practices to determine the final item and classes of service to be measured. The service quality measurement (SQM) goal was difficult to set because the group lacked historical trended data from the ILECs. The ILECs have been reluctant to share current performance over the past 12-18 months. The goals were drawn from best of class and/or good business practices. The SQM goal may change as the ILECs start sharing historical as well as actually self- reporting data benchmark by the ILEC, the CLEC, and the CLEC industry on a going forward basis.

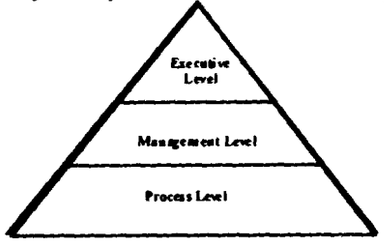
# LCUG Service Quality Measurements (SQMs)

## Measurement Plans:

A measurement plan must incorporate at least the following characteristics: 1) provide statistically valid and independently verifiable comparisons of the CLEC and CLEC industry experience to that of the ILEC; 2) account for potential performance variations due to differences in service and activity mix; 3) measure not only service measurements but also measures directed at UNEs in general and OSS interfaces; and 4) produce results which demonstrate the nondiscriminatory access to OSS functionality is being delivered across all interfaces and a broad range of resold services and unbundled elements. The measures must address interface availability, timeliness of execution, and accuracy of execution.

It is essential that the CLECs be able to determine that they are receiving equal treatment to that provided to the ILEC and its affiliates. Benchmarks and performance standards that are adopted by the CLECs and ILECs or ordered by commissions and reported will determine whether new service providers are receiving nondiscriminatory treatment. Benchmark comparisons should be self reported by the ILEC and reflect CLEC performance, ILEC performance and CLEC industry performance.

The measurements contained within this document addresses metrics at the executive level. There are several other levels of measurements that are used for the day-to-day activities as illustrated by the following simple diagram.




## Process Improvement:

In addition to the actual reporting of measurements there must be a commitment to take corrective action when poor performance or non-parity situations are identified. The ILECs need to self-report all measurements and analyze the results. Root cause analysis must be conducted and corrective actions taken to improve results or resolve issues. Corrective action steps, schedules and milestones should be developed by the ILEC and CLEC as appropriate to ensure timely implementation of corrective steps.

# LCUG Service Quality Measurements (SQMs)

## *PRE-ORDER (PO)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Timeliness of Providing Pre-Ordering Information | Measures the ILEC response time to a query for appointment scheduling, service & feature availability, address verification, request for Telephone Numbers (TNs) and Customer Service Records (CSRs). The query interval starts with the request message leaving the CLEC and ends with the response message arriving at the CLEC. | ≤2 seconds from the time the query is launched until the following data is received back (98% ≤ 2 sec & 100% ≤ 5 sec):<br>〈 Due Date Reservation<br>〈 Feature Function Availability<br>〈 Facility Availability<br>〈 Street Address Validation<br>〈 Service Availability Information<br>〈 Appointment Scheduling<br>〈 Customer Service Records<br>〈 Telephone Number Assignments:<br>1. ≤30 TNs ret'd in ≤ 2 sec 98% of time & ≤ 5 sec 100% of time,<br>2. > 30 TNs ret'd < 2 hours 100% of time<br><br>**PO-1**<br>**# of Responses Received on time / Total # of Queries Sent** x 100<br><br>**PO-2**<br>**Mean Cycle Time** |

# LCUG Service Quality Measurements (SQMs)

## *ORDERING AND PROVISIONING (OP)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Orders completed within specified intervals | Measures the percentage and mean completion interval of orders (installation, feature change, service disconnect) completed with a requested due date that is equal or less than the interval specified in the Service Quality Measurements column.* | Unless specified below, orders with no Premises Visit or no physical work involved completed within 1 day of service order receipt *; orders that require Premises Visit or physical work: completed within 3 days of service order receipt *; 99% orders completed on due date *.<br>**Installation:**<br>( UNE Platform (at least DS0 loop + local switch + all common elements) always within 24 hours, regardless of dispatch<br>( UNE Channelized DS1 (DS1 loop + multiplexing) always within 48 hours<br>( Unbundled DS0 loop always within 24 hours<br>( Unbundled DS1 loop (unchannelized) always within 24 hours<br>( Other Unbundled Loops always within 24 hours<br>( Unbundled Switch always within 48 hours<br>( Dedicated Transport - DS0/DS1 always within 3 business days<br>( Dedicated Transport - DS3 always within 5 bus days<br>**Feature Changes:**<br>( All orders completed within 5 business hours of receipt<br>**Disconnects:**<br>( Resale Product or Svc Disconnects always within 24 hrs<br>( UNE switching within 24 hours<br>( UNE (other) within 24 hours<br><br>**OP - 1**<br>**# of Orders Completed on Time x 100**<br>**Total # of Orders Completed**<br><br>**OP - 2**<br>Mean Completion Time |

* **Reported for the following types of service or facility: Resold POTS, Resold ISDN, Resold Centrex/Centrex-like, Resold PBX trunks, Resold Channelized T1.5 Service, Other Resold Services, UNE Platform (at least DS0 loop + local switch + transport elements), UNE Channelized DS1 (DS1 loop + multiplexing), Unbundled DS0 loop, Unbundled DS1 loop, Other Unbundled loops, Unbundled Switch, Other UNEs**

# LCUG Service Quality Measurements (SQMs)

## *ORDERING AND PROVISIONING (OP) (con'd)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Order Accuracy | Measures the accuracy and completeness of the ILEC provisioning or disconnecting service by comparing what was ordered & what was completed | ≥ 99% are completed without error<br><br>**OP-3**<br>**# of Orders Completed w/o error x 100**<br>**Total # of Orders Sent** |
| Order Status | Measures the response time (by percentage and mean time) for: Firm Order Confirmations (C-FOCs and D-FOCS *), Jeopardize / revised due date, Rejects, and Completions from the time an order is sent to the ILEC until a status is received<br><br>***C-FOC: accepted, no change**<br>**D-FOC: does not match due date** | ⟨ FOC: 100% ≤ 4 hrs<br>⟨ Jeopardies/revised due date: 100% ≤ 4 hours<br>⟨ Rejects: ≥ 97% in ≤ 15 seconds<br>⟨ Order Completions: ≥ 97% received within 30 min of order completion<br><br>**OP-4**<br>**[# of FOCs returned ÷ (Total # of Orders Sent) - Rejects Returned)] x 100**<br><br>**OP-5**<br>**Mean Time to Return FOC**<br><br>**OP-6**<br>**[# of D_FOCs returned in ≤ 4 hours ÷ (Total # of Orders sent - Rejects Returned)] x 100**<br><br>**OP-7**<br>**Mean Time to Return D-FOCS**<br><br>**OP-8**<br>**(# of Rejects returned in ≤ 15 seconds) ÷ (Total # of Rejects Returned) x 100** |

# LCUG Service Quality Measurements (SQMs)

## *ORDERING AND PROVISIONING (OP) (con'd)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| | | **OP-9**<br>**Mean Time to Return Rejects**<br><br>**OP-10**<br>**Jeopardies returned w/i 70% of allotted order time ÷ Total # Jeopardies Returned**<br><br>**OP-11**<br>**(# of Completions returned in ≤ 30 minutes) ÷ (Total # Completed Orders) x 100**<br><br>**OP-12**<br>**Mean Time to Return Completion**<br><br>**OP-13**<br>**Jeopardies**<br>**(Total C-FOCS -Total Rejects)** |
| # of Held Orders | Tracks the percentage **and number** of held orders within specified intervals | Report for:<br>≥ 15 days, ≤0.1%<br>≥ 90 days, = 0%<br><br>**OP-14**<br>**(# of Orders Held for ≥ "*x*" days) ÷ (Total # of Orders Sent to ILEC in the past "*x*" days) x 100**<br>***where "x" = 15 or 90 days***<br><br>**OP-15**<br>**Mean Time of Orders Held Prior to Completion** |

# LCUG Service Quality Measurements (SQMs)

## *MAINTENANCE / REPAIR (MR)*

| **Function** | **Measurement Objective** | **Proposed Service Quality Measurement** |
|---|---|---|
| Time to Restore (TTR) | Measures the percent of restorals made by product and service within 24 hours or less*<br><br>***Measures the mean time that it takes for the ILEC to resolve customer troubles****| **Out of Service No Dispatch**<br>≥ 85% in 2 hrs<br>≥ 95% in 3 hrs<br>≥ 99% in 4 hrs<br>**All other Troubles**<br>≥ 95% in 24 hrs **Dispatch Required**<br>≥ 90% in 4 hrs<br>≥ 95% in 8 hrs<br>≥ 99% in 16 hrs<br><br>**MR-1**<br>*( # of Troubles Restored Within "x" hours ÷ Total # Troubles ) x 100*<br>*where "x" = 2,3,4,8,16, or 24 "running clock" hours*<br>***Mean Time to Restore reported for ILEC and CLEC, for dispatch required and no dispatch required***<br><br>**MR-2**<br>***Total # of Trouble Minutes ÷ Total # of Trouble Reports*** |
| Repeat Troubles | Measures the frequency of recurring customer trouble on the same line, circuit or service* | ≤ 1% within 30 days*<br>**MR-3**<br>**# of telephone lines reporting ≥ 2 troubles in the current report month. Total number of troubles in the current report month.** |

* **Reported for the following types of service or facility: Resold POTS, Resold ISDN, Resold Centrex/Centrex-like, Resold PBX trunks, Resold Channelized T1.5 Service, Other Resold Services, UNE Platform (at least DS0 loop + local switch + transport elements), UNE Channelized DS1 (DS1 loop + multiplexing), Unbundled DS0 loop, Unbundled DS1 loop, Other Unbundled loops, Unbundled Switch, Other UNEs**

# LCUG Service Quality Measurements (SQMs)

## *MAINTENANCE / REPAIR (MR) (con'd)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| | | This includes those lines, circuits, or services with a second trouble ticket coded out as CC (Came Clear), CO (central office), FAC (Facility) or STA (station) that follow an initial ticket coded out as Any found or Non-found disposition. |
| Troubles Per 100 Lines | Measures the frequency of troubles reported within the ILEC's network * | ≤ 1.5 per month*<br><br>**MR-4**<br>**(# of Initial & Repeated Trouble Reports per exchange per month) ÷ (Total # of Lines per exchange) x 100** |
| Estimated Time to Restore (Appointments Met) ETTR | Measures the compliance of restoring service within the time estimated to the CLEC, reported for premises visits required and premises visit not required* | **≥ 99%***<br><br>**MR-5**<br>**(# of Customer Trouble Appointments Met ÷ Total # Customer Trouble Appointments) x 100** |

* ***Reported for the following types of service or facility: Resold POTS, Resold ISDN, Resold Centrex/Centrex-like, Resold PBX trunks, Resold Channelized T1.5 Service, Other Resold Services, UNE Platform (at least DS0 loop + local switch + transport elements), UNE Channelized DS1 (DS1 loop + multiplexing), Unbundled DS0 loop, Unbundled DS1 loop, Other Unbundled loops, Unbundled Switch, Other UNEs***

# LCUG Service Quality Measurements (SQMs)

## *GENERAL (GE)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Systems Availability | Measures the availability of operations support systems and associated interfaces (for pre-ordering, ordering and provisioning, maintenance) | ≤ 0.1% unplanned downtime per month, reported for each interface:<br>Pre-ordering Inquiry Interface<br>Ordering Interface<br>Maintenance Interface<br>**GE-1**<br>**( # Hours Interface and/or System Not Available as Scheduled) ÷ (Total # Hours Scheduled Availability ) x 100**<br><br>**GE-2**<br>**Mean # of Hours Available** |
| Center Responsiveness | Measures the time for the ILEC representative to answer business office calls in provisioning and trouble report centers. | ≥ 95% within 20 seconds<br>100% within 30 seconds<br><br>**GE-3**<br>**# Calls Answered Within Specified Timeframe x100**<br>**Total # Calls from CLEC to Center**<br><br>**GE-4**<br>**Mean Time to Answer Calls w/o IVR; if IVR - Mean Time to Answer Calls after the end of IVR** |

# LCUG Service Quality Measurements (SQMs)

## *BILLING (BI)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Timeliness of Billing Records Delivered | Measures the timeliness of billing records and wholesale bills (usage, CSRs, service orders, time & materials, adjustments) delivered to CLEC | 99.9% billing records received in ≤ 24 hours<br>100% billing records received in ≤ 48 hours<br>≥ 99.95% wholesale bills received within 10 calendar days of bill date<br><br>**BI-1**<br>**# Billing Records Delivered on time x 100**<br>**Total # of Billing Records Received**<br><br>**BI-2**<br>**Mean Time to Provide Billing Records**<br><br>**BI-3**<br>**Mean Time to Deliver Wholesale Bills** |
| Accuracy | Measures the percentage ***and mean time*** of billing records delivered to CLEC in the agreed-upon format and with the complete agreed-upon content (includes time and material and other non-recurring charges) | ≥ 98% wholesale bill financially accurate<br>≥ 99.99% of all records transmitted<br><br>**BI-4**<br>**(# of Accurate and Complete Formatted Mechanized Bills , Total # Mechanized Bills Received ) x 100**<br><br>**BI-5**<br>**# of Billing Records Transmitted Correctly x 100**<br>**Total # of Billing Records Received** |

# LCUG Service Quality Measurements (SQMs)

## *OPERATOR SERVICES AND DIRECTORY ASSISTANCE (DA)*

| **Function** | **Measurement Objective** | **Proposed Service Quality Measurement** |
|---|---|---|
| Average Speed to Answer | Measures the percent and mean time a call is answered by an OS or DA operator in a predefined timeframe. Includes all time from initiation of ringing until the customer's call is answered. | For live agent, 90% of calls answered in 10 seconds.<br>For Voice Response Unit service, 100% within 2 seconds.<br><br>**DA-1**<br># Calls Answered Within "*x*" seconds x 100<br>Total DA Calls<br>*where "x" equals 2or 10 seconds*<br><br>**DA-2**<br>*DA Mean Time To Answer*<br><br>**OS-1**<br># Calls Answered Within "*x*" seconds x 100<br>Total OS Calls<br>where "x" equals 2 or 10 seconds<br><br>**OS-2**<br>*OS Mean Time To Answer* |

# LCUG Service Quality Measurements (SQMs)

## *NETWORK PERFORMANCE (NP)*

| **Function** | **Measurement Objective** | **Proposed Service Quality Measurement** |
|---|---|---|
| Network Performance Parity | Compares ILEC performance distribution for its own customers to ILEC performance distribution for CLEC customers. Measures the deviation from supplier service performance distribution for each metric specified. | Deviation ≤ 0.10% from supplier service performance distribution:<br>Transmission quality:<br>〈 Subscriber Loop Loss<br>〈 Signal to Noise Ratio<br>〈 Idle Channel Circuit Noise<br>〈 Loops-Circuit Balance<br>〈 Circuit Notched Noise<br>〈 Attenuation Distortion<br>Speed of Connection:<br>〈 Dial Tone Delay<br>〈 Post Dial Delay<br>〈 Call Completion/ Delivery Rate<br>Reliability Requirements: (For TSR Only)<br>〈 Network incidents affecting > 5000 blocked calls<br>〈 Network incidents > 100,000 blocked calls<br><br>Statistical comparison based on the Mean ILEC Customer Experience and standard deviation from this mean, the Mean CLEC Customer Experience and standard deviation from this mean, and the number of observations used to determine these means.<br><br>**NP-1**<br>**(Mean ILEC customer experience - Mean CLEC customer experience) ÷ Mean ILEC customer experience x 100**<br>***Deviation between ILEC performance for ILEC and CLEC customers must be less than 0.10%.*** |

# LCUG Service Quality Measurements (SQMs)

## *INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Availability of Network Elements | Measures the availability of network elements (e.g. signaling link transport, SCPs/ Databases, & loop combinations) | Loop Combo availability 100%<br><br>Signaling Link Transport Unavailability:<br>⟨ A-Link: ≤ 1 min per year<br>⟨ D-Link: ≤ 1 sec per year<br>⟨ SCPs/Databases: ≤ 15 min per year<br>⟨ SCPs/Databases correctly updated: ≥ 99% in ≤ 24 hrs<br><br>**IUE-1**<br>**# minutes Loop unavailable x 100**<br>**Total # minutes**<br><br>**IUE -2**<br>**# minutes A-link available during "*x*" years**<br>**"*x*" years**<br><br>**IUE-3**<br>**# seconds D-link unavailable during "*x*" year**<br>**"*x*" year**<br>**Where x ≤ or ≥ year. After year, monthly reporting should be for a rolling year.**<br><br>**IUE-4**<br>**# Database Records Correctly Updated x 100**<br>**Total # Update Requests Received by ILEC**<br><br>**IUE-5**<br>**(# Database Records Updated within 24 hours of Update Request Receipt) , (Total # Database Update Requests Received) x 100** |

# LCUG Service Quality Measurements (SQMs)

## *INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE) (con'd)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| Performance of Network Elements | Measures the performance of network elements (e.g. LIDB, routing to CLEC OS/DA platforms, 800, AIN) | **Example:**<br>⟨LIDB reply rate to all query attempts ≥ 99.95%<br>⟨LIDB query time-out ≤ 0.05%<br>⟨Unexpected data values in replies for all LIDB queries ≤ 1%<br>⟨% of LIDB queries return a missing customer record = 0%<br>⟨Group troubles in all LIDB queries ≤ 0.5%<br>**Delivery to OS platform:**<br>Mean Post Dial Delay for "0" calls from LSO to CLEC OS platform ≤ 2 seconds PDD for "0+" calls with 6 digit analysis from LSO to CLEC OS platform: 95% ≤ 2.0 sec; Mean ≤ 1.75 sec<br>Percent of call attempts to CLEC OS Platform that were blocked ≤ 0.1%<br><br>**IUE-6**<br>**(# LIDB\| or 800 or AIN or *n* \|Query Replies Received by CLEC) ÷ (Total # LIDB\| or 800 or AIN or *n* \| Queries Received by ILEC) x 100**<br><br>**IUE-7**<br>**(# LIDB\| or 800 or AIN or *n* \| time-out responses received by CLEC) ÷ (Total # LIDB \| or 800 or AIN or *n* \|Queries Received by ILEC) x 100**<br><br>**IUE-8**<br>**(# LIDB \| or 800 or AIN or *n* \|Query Replies with unexpected data values received by CLEC) ÷ (Total # LIDB Queries Received by ILEC) x 100** |

# LCUG Service Quality Measurements (SQMs)

## *INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE) (con'd)*

| Function | Measurement Objective | Proposed Service Quality Measurement |
|---|---|---|
| | | **IUE-9**<br>**(# LIDB\| or 800 or AIN or *n* \| Query Replies missing customer record received by CLEC) ÷ (Total # LIDB [ or 800 or AIN or *n* \|Queries received by ILEC) x 100**<br><br>**IUE-10**<br>**(Cumulative Total # Post Dial Delay Seconds experienced on "0" calls from LSO to CLEC OS platform) ÷ (Total # "0" calls from LSO to CLEC OS platform)**<br><br>**IUE-11**<br>**(Cumulative Total # Post Dial Delay Seconds experienced on "0+" calls with 6 digit analysis from LSO to CLEC OS platform) ÷ (Total # "0+" calls with 6 digit analysis from LSO to CLEC OS platform)**<br><br>**IUE-12**<br>**# of "0+" calls with 6 digit analysis from LSO to CLEC OS platform that have Post Dial Delay ≤ 2 seconds ÷ (Total # "0+" calls with 6 digit analysis from LSO to CLEC OS platform)**<br><br>**IUE-13**<br>**# Blocked Call Attempts to CLEC OS Platform x 100**<br>**Total # Call Attempts to CLEC OS Platform** |

# LCUG Service Quality Measurements (SQMs)

## FORMULAS
## QUICK REFERENCE GUIDE

| Metric No. | Formula |
|---|---|
| ***PRE-ORDER*** | |
| **PO-1** | # of Responses Received on Time / Total # of Queries Sent x 100 |
| **PO-2** | Mean Cycle Time |
| ***ORDERING AND PROVISIONING*** | |
| **OP-1** | # of Orders Completed on Time / Total # of Order Completed x 100 |
| **OP-2** | Mean Completion Interval |
| **OP-3** | # of Orders Completed w/o Error / Total # of Orders Sent x 100 |
| **OP-4** | [# of *C*-FOCs Returned in ≤ 4 hours ÷ (Total # of Orders Sent - Syntax Rejects Returned)] x 100 |
| **OP-5** | Mean Time to Return FOC |
| **OP-6** | [# of ***D-FOCs*** Returned in ÷ (Total # of Orders Sent - Rejects Returned)] x 100 |
| **OP-7** | Mean Time to Return ***D-FOCs*** |

# LCUG Service Quality Measurements (SQMs)

**OP-8** (# of ***Syntax*** Rejects Returned in ≤ 15 seconds) ÷
(Total # of ***Syntax*** Rejects Returned) x 100

**OP-9** Mean Time to Return Rejects

***OP-10*** ***Jeopardies Returned within 70% of allotted order time ÷ Total number Jeopardies Returned***

**OP-11** (# of Completions Returned in ≤ 30 minutes) ÷
(Total # Completed Orders) x 100

**OP-12** Mean Time to Return Completion

**OP-13** Jeopardies
Total C-FOCs - Total Rejects

**OP-14** (# of Orders Held for ≥ x days) ÷
(Total # of Orders Sent to ILEC
in past x days ) x 100

**OP-15** Mean Time of Orders Held Prior
to Completion

***MAINTENANCE / REPAIR***

**MR-1** (# of Troubles Restored within x hours ÷
Total # Troubles) x 100
where "x" = 2,3,4,8,16 or 24 "running clock" hours

**MR-2** Total # of Trouble Minutes
Total # of Trouble Reports

# LCUG Service Quality Measurements (SQMs)

| | | |
|---|---|---|
| **MR-3** | # of telephone lines reporting ≥ 2 troubles in the current report months ÷ Total # of troubles in current report months | |
| **MR-4** | # of Initial & Repeated Trouble Reports per exchange per month / Total # of Lines per exchange | x 100 |
| **MR-5** | # Customer Trouble Appointments Met / Total # Customer Trouble Appointments | x 100 |
| ***GENERAL*** | | |
| **GE-1** | (# Hours Interface and/or System Not Available as Scheduled) ÷ (Total # Hours Scheduled Availability) | x 100 |
| **GE-2** | Mean # of Hours Available | |
| **GE-3** | # Calls Answered within Specified Timeframe / Total # Calls from CLEC to Center | x 100 |
| **GE-4** | Mean Time to Answer Calls w/o IVR; If IVR, Mean Time to Answer Calls after end of IVR | |
| ***BILLING*** | | |
| **BI-1** | # Billing Records Delivered on Time / Total # of Billing Records Received | x 100 |
| **BI-2** | Mean Time to Provide Billing Records | |

# LCUG Service Quality Measurements (SQMs)

| | | |
|---|---|---|
| **BI-3** | Mean Time to Deliver Wholesale Bills | |
| **BI-4** | (# of Accurate & Complete Formatted Mechanized Bills ÷ Total # Mechanized Bills Received) | x 100 |
| **BI-5** | # of Billing Records Transmitted Correctly / Total # of Billing Records Received | x 100 |

***DIRECTORY ASSISTANCE AND OPERATOR SERVICES***

| | | |
|---|---|---|
| **DA-1** | # Calls Answered within "x" seconds / Total DA Calls where "x" equals 2 or 10 seconds | x 100 |
| **DA-2** | DA Mean Time to Answer | |
| **OS-1** | # Calls Answered within "x" seconds / Total OS Calls where "x" equals 2 or 10 seconds | x 100 |
| **OS-2** | OS Mean Time to Answer | |

***NETWORK PERFORMANCE***

| | | |
|---|---|---|
| **NP-1** | (Mean ILEC customer experience - Mean CLEC customer experience) ÷ Mean ILEC Customer Experience | x 100 |

***INTERCONNECTION / UNBUNDLED ELEMENTS AND COMBOS***

| | | |
|---|---|---|
| **IUE-1** | # Minutes Loop available / Total # Minutes | x 100 |

# LCUG Service Quality Measurements (SQMs)

| | |
|---|---|
| **IUE-2** | # Minutes A-link unavailable during x years<br>x years<br>(where "x" < or > 1 year after first year, monthly reporting should be for a rolling year. |
| **IUE-3** | # Seconds D-link unavailable during x years<br>x years |
| **IUE-4** | # Database Records Correctly Updated<br>Total # Update Requests Received by ILEC x 100 |
| **IUE-5** | (# Database Records Updated within 24 hrs. of Update Request Received ) ÷ (Total # Database Update Requests Received) |
| **IUE-6** | (# LIDB [or 800 or AIN or n] Query Replies Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC x 100 |
| **IUE-7** | (# LIDB [or 800 or AIN or n] Time-Out Responses Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC) x 100 |
| **IUE-8** | (# LIDB [or 800 or AIN or n] Query Replies with Unexpected Data Values Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC) x 100 |
| **IUE-9** | (# LIDB [or 800 or AIN or n] Query Replies Missing Customer Record Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries |